

EU-TYPE EXAMINATION CERTIFICATE

Inhemeter Co., Ltd.

8/F & 9/F, 1A, Software Park, Southern Hi-Tech Zone, Nanshan District,
518054 Shenzhen
China

EU-Type Examination

Certificate No.

1274-20

Revision 4



Type i210
Object Electronic single-phase two-wire energy meter.
Direct connected

The object has been assessed and meets the requirements of

EU Directive 2014/32/EU
Module B

The energy meter(s) meet(s) the essential requirements of Annex V of EU Directive 2014/32/EU, on the harmonization of the laws of Member States relating to the making available on the market of measuring instruments (recast).

This Certification is based on the report(s) listed in the report list in this Certificate.

This Certificate is valid until: February 20, 2035.

This Certificate comprises 9 pages in total.

Issued by KEMA B.V.
Klingelbeekseweg 195,
Arnhem, The Netherlands
Notified Body 2290

Alessandro Bertani
Director,
Services & Smart Technologies

Arnhem, February 20, 2025



REVISION OVERVIEW

The edition with the highest revision number always replaces the earlier issued editions.

Rev. No.	Date of issue	Reason
0	July 9, 2020	First issue
1	March 16, 2021	Product update
2	December 14, 2021	Report corrected
3	February 14, 2025	<ul style="list-style-type: none">• Report 1763-24 added• Firmware version added
4	February 20, 2025	<ul style="list-style-type: none">• Clause 1, Typo corrected• Clause 5 updated

REPORT LIST

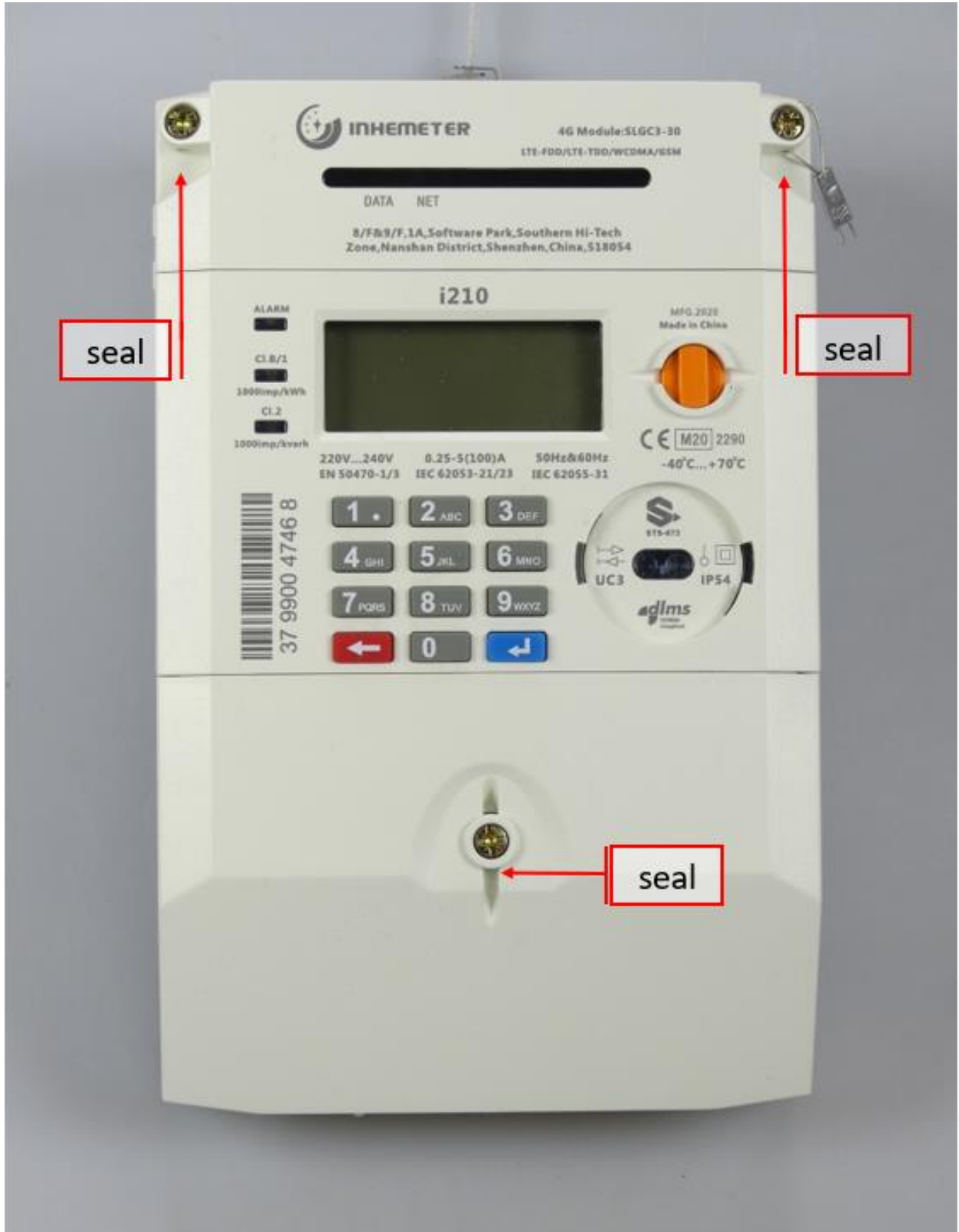
This Certificate is issued based on the following reports.

Report number	Revision	Firmware version
1065-21	R1	G3-PLC version: SKI1-7A-20121501 LTE version: SKI1-7A-20120901 Wi-SUN version: SKI1-7A-19123101
1763-24	R0	G3-PLC version: SKI1-7A-24071501 LTE version: SKI1-7A-24071001 Wi-SUN version: SKI1-7A-24072101 Metering MCU: 7A-EMU-19092901

1 TECHNICAL DATA

Manufacturer	Inhemeter Co., Ltd. 8/F & 9/F, 1A, Software Park, Southern Hi-Tech Zone, Nanshan District, 518054 Shenzhen, China	
Production location	Inhemeter Co., Ltd. 8/F & 9/F, 1A, Software Park, Southern Hi-Tech Zone, Nanshan District, 518054 Shenzhen, China	
Type	i210	
Connection	Direct	
Type of circuit	1P2W two-element	
Accuracy class Wh	1/B	
Accuracy class varh	2	
Meter constant	1000 imp/kWh 1000 imp/kvarh	
V range	220 – 240 V	
I range I_{min} - I_n (I_{max})	0,25 – 5(100) A	
Frequency	50 and 60 Hz	
Temperature range	-40 °C to 70 °C	
Use	Indoor	
IP rating	IP54	
Protection Class	II	
Impulse voltage	6 kV	
Internal clock	Crystal controlled	
Environmental class	M1, M2, E1 and E2, CISPR32 class B	
LR Firmware ID	G3-PLC version: SKI1-7A-20121501 LTE version: SKI1-7A-20120901 Wi-SUN version: SKI1-7A-19123101	G3-PLC version: SKI1-7A-24071501 LTE version: SKI1-7A-24071001 Wi-SUN version: SKI1-7A-24072101 Metering MCU: 7A-EMU-19092901
LR Firmware CRC	G3-PLC version: A8CC3132 LTE version: 235C6B66 Wi-SUN version: DE17D61B	G3-PLC version: 21FA28AD LTE version: 6604B7B9 Wi-SUN version: 9AFFBC19 Metering MCU: 960ACD18
Register	LCD	
Registry method(s):	bi-directional method with separate registers: received- and delivered energy is added in separate registers.	

2 PHOTOGRAPHS AND SEALING





Metrology seal

Metrology seal

3 EXAMPLES OF NAME PLATES



4 CALCULATION OF THE COMPOSITE ERROR / MPE

During the type approval test the intrinsic errors for temperature, voltage and frequency variation are determined per load point. The composite error is determined with the following formula:

$$\varepsilon_m = \sqrt{\varepsilon^2(I, \cos\varphi) + \delta^2(T, I, \cos\varphi) + \delta^2(U, I, \cos\varphi) + \delta^2(f, I, \cos\varphi)}$$

Where

$\varepsilon^2(I, \cos\varphi)$ = Intrinsic error of the meter at a certain load

$\delta^2(T, I, \cos\varphi)$ = Additional error due to the variation of the temperature at the same load

$\delta^2(U, I, \cos\varphi)$ = Additional error due to the variation of the voltage at the same load

$\delta^2(f, I, \cos\varphi)$ = Additional error due to the variation of the frequency at the same load

Results are in the table below:

I in % of Iref	cos φ	Composite error %								
		°C	-40	-25	-10	5	30	40	55	70
5	1		0,33%	0,25%	0,19%	0,11%	0,05%	0,10%	0,17%	0,24%
10	1		0,35%	0,26%	0,18%	0,11%	0,04%	0,07%	0,17%	0,25%
10	0,5 ind.		0,32%	0,23%	0,17%	0,09%	0,07%	0,10%	0,12%	0,11%
10	0,8 cap.		0,33%	0,26%	0,18%	0,10%	0,04%	0,09%	0,21%	0,31%
I _{max}	1		0,26%	0,24%	0,22%	0,19%	0,18%	0,20%	0,23%	0,27%
I _{max}	0,5 ind.		0,26%	0,24%	0,21%	0,20%	0,19%	0,19%	0,19%	0,19%
I _{max}	0,8 cap.		0,26%	0,24%	0,22%	0,19%	0,19%	0,20%	0,24%	0,29%

5 OPTIONS AND VARIANTS

Overview of variants with details

Type designation	Details of the meter
i210	<ul style="list-style-type: none">• Communication options: optical port RS485 GPRS G3-PLC LTE Wi-Sun• Neutral measurement

END OF DOCUMENT

The laboratories of KEMA Labs are:

- CESI S.p.A., Milan, Italy, accredited by ACCREDIA in accordance with ISO/IEC 17025:2017 under no. 0030L.
- FGH Engineering & Test GmbH, Mannheim, Germany, accredited by DAkKS in accordance with DIN EN ISO/IEC 17025:2018 under no. D-PL-12110-01-00.
- IPH Institut "Prüffeld für elektrische Hochleistungstechnik" GmbH, Berlin, Germany accredited by DAkKS in accordance with DIN EN ISO/IEC 17025:2018 under nos. D-PL-12107-01-00 and D-K-12107-01-00.
- KEMA B.V., Arnhem, The Netherlands, accredited by RvA in accordance with EN ISO/IEC 17025:2017 under nos. L020, L218 and K006 and with EN ISO/IEC 17065:2012 under no. C685.
- KEMA Labs, Zkušebnictví, a.s., Prague, the Czech Republic, testing laboratory no. 1035 accredited by CAI in accordance with ČSN EN ISO/IEC 17025:2018.
- KEMA-Powertest, LLC, Chalfont, United States, accredited by A2LA in accordance with ISO/IEC 17025:2017 under no. 0553.01.

Tests are carried out under the scope of accreditation, unless otherwise indicated in the chapter 'Tests carried out'.